

WHAT IS CLAIMED IS:

1. A method to determine telephone services enabled on a telephone line that is registered to receive services from an online service provider, the method comprising:

5 determining whether a telephone line registered to receive services from an online service provider is occupied;

placing one or more test calls across a network to the telephone line conditioned upon whether the telephone line is determined to be occupied;

receiving signaling data through the network in response to the test calls; and

10 determining one or more telephone services that are believed to be enabled on the telephone line based on at least the signaling data.

2. The method of claim 1, wherein determining whether the telephone line is occupied comprises receiving an indication that the telephone line is occupied.

15 3. The method of claim 2, wherein the indication is received from a login system and is generated based on the telephone line being used to log into the online service provider.

20 4. The method of claim 3, wherein placing one or more test calls includes placing the test calls in response to a message indicating that the telephone line is being used to log into the online service provider.

5. The method of claim 1, wherein the services include data services.

25 6. The method of claim 1, wherein the services include voice services.

7. The method of claim 6, wherein the voice services comprise services related to the exchange of voice communications that are implemented by non-switch systems associated with the network.

30 8. The method of claim 7, wherein the voice services include a voicemail service.

9. The method of claim 7, wherein the voice services include a call alerts service.

10. The method of claim 1, wherein determining whether the telephone line is occupied comprises placing a call to occupy the telephone line.

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11. The method of claim 1, wherein the telephone services comprise features implemented by a switch in the network.

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12. The method of claim 11, wherein the switch features include a call forward busy service.

13. The method of claim 11, wherein the switch features include a call waiting service.

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14. The method of claim 1, wherein placing one or more test calls includes placing one or more test calls in response to a message indicating that the telephone line is being used to dial into the online service provider.

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15. The method of claim 1, wherein determining telephone services enabled on the telephone line comprises determining that the telephone line is enabled with a call forward busy service that forwards calls to the online service provider conditioned upon whether a first test call is redirected to the online service provider.

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16. The method of claim 1, wherein determining telephone services enabled on the telephone line comprises determining that the telephone line is enabled with a call forward busy service that forwards calls to the online service provider and a call waiting service conditioned upon whether a busy and disconnect signal is not received in response to a first test call and a second test call is redirected to the online service provider.

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17. The method of claim 1, wherein determining telephone services enabled on the telephone line comprises determining that the telephone line is enabled with a call waiting service conditioned upon whether a busy and disconnect signal is not received in response to

a first test call, a busy and disconnect signal is received in response to a second test call, and the second test call is not redirected to the online service provider.

18. The method of claim 1, wherein determining telephone services enabled on the telephone line comprises determining that the telephone line is enabled with a call forward busy service that does not forward calls to the online service provider conditioned upon whether a busy and disconnect signal is not received in response to a first test call and a busy and disconnect signal is not received in response to a second call.

19. A computer system configured to detect telephone services enabled on a telephone line that is registered to receive services from an online service provider, the computer system comprising:

a telephony server configured to:

determine whether a telephone line registered to receive services from an online service provider is occupied;

place one or more test calls across a network to the telephone line conditioned upon whether the telephone line is determined to be occupied,

receive signaling data through the network in response to the test calls, and

determine one or more telephone services that are believed to be enabled on the telephone line based on at least the signaling data.

20. The computer system of claim 19, wherein the telephony server is configured to place the one or more test calls in response to a login notification message received from a login system indicating that the telephone line is occupied.

21. The computer system of claim 20, wherein the login notification message is generated in response to the telephone line being used to log into the online service provider.

22. The computer system of claim 20, further comprising the login system.

23. The computer system of claim 19, wherein the services include data services.

24. The computer system of claim 19, wherein the services include voice services.

25. The computer system of claim 24, wherein the voice services comprise services related to the exchange of voice communications that are implemented by non-switch
5 systems associated with the network.

26. The computer system of claim 25, wherein the voice services include a voicemail service.

10 27. The computer system of claim 25, wherein the voice services include a call alerts service.

28. The computer system of claim 19, wherein the telephony server is configured to determine whether the telephone line is occupied by placing a call to occupy the telephone
15 line.

29. The computer system of claim 19, wherein the telephone services comprise features implemented by a switch in the network.

20 30. The computer system of claim 29, wherein the switch features include a call forward busy service.

31. The computer system of claim 29, wherein the switch features include a call waiting service.
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32. The computer system of claim 19, wherein the telephony server is configured to place one or more test calls in response to a message indicating that the telephone line is being used to dial into the online service provider.

30 33. The computer system of claim 19, wherein the telephony server is configured to determine that the telephone services enabled on the telephone line include a call forward

busy service that forwards calls to the online service provider conditioned upon whether a first test call is redirected to the online service provider.

34. The computer system of claim 19, wherein the telephony server is configured to determine that the telephone services enabled on the telephone line include a call forward busy service that forwards calls to the online service provider and a call waiting service conditioned upon whether a busy and disconnect signal is not received in response to a first test call and a second test call is redirected to the online service provider.

35. The computer system of claim 19, wherein the telephony server is configured to determine that the telephone services enabled on the telephone line include a call waiting service conditioned upon whether a busy and disconnect signal is not received in response to a first test call, a busy and disconnect signal is received in response to a second test call, and the second test call is not redirected to the online service provider.

36. The computer system of claim 19, wherein the telephony server is configured to determine that the telephone services enabled on the telephone line include a call forward busy service that does not forward calls to the online service provider conditioned upon whether a busy and disconnect signal is not received in response to a first test call and a busy and disconnect signal is not received in response to a second call.

37. An apparatus for determining telephone services enabled on a telephone line, the apparatus comprising:

means for determining whether a telephone line registered to receive services from an online service provider is occupied;

means for placing one or more test calls across a network to the telephone line conditioned upon whether the telephone line is determined to be occupied;

means for receiving signaling data through the network in response to the test calls; and

means for determining one or more telephone services that are believed to be enabled on the telephone line based on at least the signaling data.